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*Leuctra cyrnea* subspecies *incudensis*, an orophilic  
new race of *Leuctra* from southern Corsica  
(Insecta, Plecoptera)

**Abstract** - Adult male and female of *Leuctra cyrnea incudensis* subsp. n. are described. The subspecies appears to be endemic to the mountains of southern Corsica, where it occurs in springs, brooks and rivulets mainly at high altitudes. The description is supported by original drawings of both the new subspecies, and of *L. cyrnea cyrnea* Consiglio & Giudicelli.

**Key words:** Plecoptera, Leuctridae, Corsica, new subspecies.

**Riassunto** - *Leuctra cyrnea* ssp. *incudensis*, una nuova razza orofila di *Leuctra* della Corsica meridionale (Insecta, Plecoptera).

Vengono descritti gli adulti di entrambi i sessi di *Leuctra cyrnea* ssp. *incudensis*. Questa sottospecie è endemica dei massicci montuosi della Corsica meridionale, dove si localizza esclusivamente nelle sorgenti, ruscelletti e ruscelli di alta quota. La descrizione è corredata dai disegni originali dell'estremità dell'addome, sia della razza nuova, sia di *L. cyrnea cyrnea* Consiglio & Giudicelli.

**Parole chiave:** Plecoptera, Leuctridae, Corsica, nuova sottospecie

### Introduction

During an autumnal collecting trip carried out by one of us (G. Vinçon) in Corsica (October 1995), series of *Leuctra cyrnea* were collected in many high altitude sites. A comparison between the specimens collected in the mountains of northern Corsica and the types of *L. cyrnea* Consiglio & Giudicelli, 1965, shows that they belong to this species. However, all the specimens, particularly the males, inhabiting the southern part of Corsica differ in a few morphological details, and belong to a different race.

### Results

*Leuctra cyrnea incudensis* subsp. n. (Figs. 1-6)

**Etymology:** The name of this subspecies is derived from that of the Monte Incudine, the highest mount in southern Corsica (2134 m a.s.l.), on the slopes of which most of the new race specimens were collected.

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*Diagnosis:* A small to medium sized macropterous *Leuctra* species belonging to the *L. hippopus* group (Aubert, 1954). The male of *Leuctra cyrnea incudensis* subsp. n. (Figs. 1-3), differs from that of *Leuctra cyrnea cyrnea* (Figs. 7-9) by the presence of a pair of strongly erect processes on tergite VII, and by the shape of the processes on tergite VIII. The female, very similar to that of *L. cyrnea cyrnea*, differs slightly in the shape of the median protuberance on the subgenital plate.

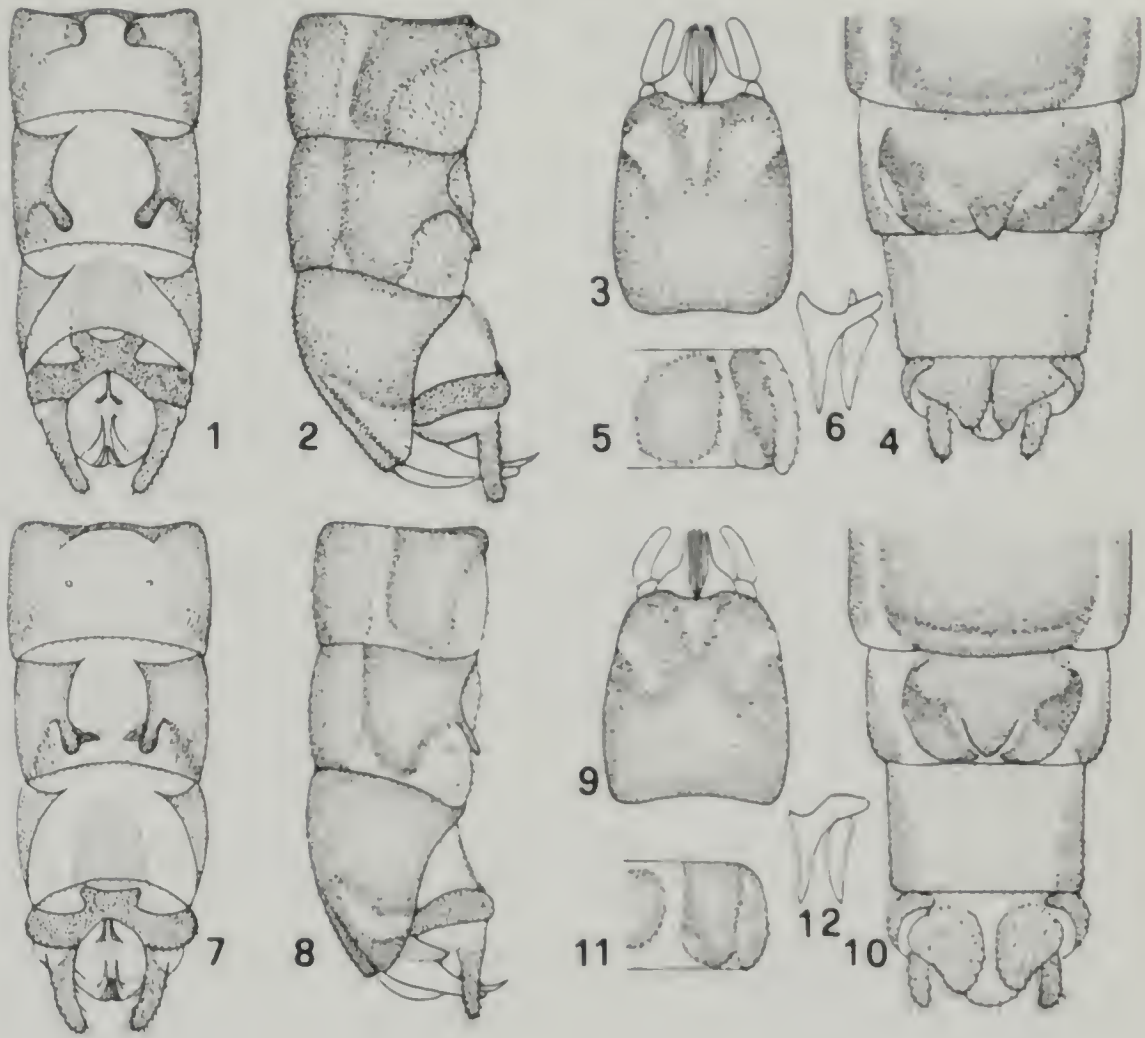
*Material examined:* France, Corsica, Haute-Corse: south-west of Ghisoni, brook tributary of the Fium Orbu, below the Bastani lake, 1800 m, 15.10.95, ♂ holotype, 25 ♂, 26 ♀ paratypes. Additional material: south-west of Ghisoni, Capannelle ski station, brook tributary of the Fium Orbu, 1650 m, 15.10.95, 5 ♂, 4 ♀. Chigheri brook, Fium Orbu tributary, above Ghisoni, 750 m, 15.10.95, 1 ♂. Corse-du-Sud: south-east of Zicavo, spring and Arinella brook, tributary of the Travo river, 1700 m, 11.10.95, 5 ♂, 5 ♀. South-east of Zicavo, spring and brook tributary of the Travo river, Coscione plateau, 1,400 m, 4 ♂, 5 ♀, 11.10.95; 1250 m, 7 ♂, 6 ♀, 11.10.95. North-west of Aullène, Chiuvene brook, Rizzanese tributary, under the Vaccia col, 1050 m, 12.10.95, 10 ♀. South-west of the Bavella col, Criviscia spring, Rizzanese tributary, 1000 m, 12.10.95, 5 ♂, 9 ♀.

Holotype ♂ and 3 ♂, 3 ♀ paratypes are held in the collection of the Musée Zoologique, Lausanne (Switzerland). Several paratypes are deposited in the collection of both the Limnologische Flußstation, Schlitz, Germany (3 ♂, 3 ♀), and the Museo Civico di Storia Naturale, Milano, Italy (3 ♂, 3 ♀). Other specimens are held by G. Vinçon, Grenoble (France) and C. Ravizza, Milano (Italy).

*Description:* Macropterous in both sexes. Body and legs dark brown. Body length, male 6-7.5 mm, female 7.5-9.5 mm; forewing length, male 3.5-6 mm, female 6-7 mm.

Male abdomen: tergites I-V simple, tergites VI-X modified. All tergites covered with thin pilosity. Tergite VI mostly membraneous; the anterior margin is entire and forms a wide strip with a median V-shaped notch. Tergite VII with a bell-shaped membraneous area; the anterior margin, becoming narrower medially, carrying two sclerotized processes that are strongly erect, rounded at their apices, and separated by twice the width of one of them (Fig. 1). The upward protrusion of these processes is clearly evident in side view (Fig. 2). Tergite VIII membraneous centrally; anterior margin interrupted in the middle for about one third of segment width; the inner sides of the lateral plates converge backwards, ending in well developed rounded processes, projecting slightly upwards in lateral view (Fig. 2). Tergite IX mostly membraneous, with a big median semicircular pigmented spot; anterior margin divided for about half the tergite width. Tergite X anterior margin bilobed, the hind margin widely notched. Cerci normally shaped, covered with long thin hairs. Epiproct racket-shaped, with a thin stalk of identical length (Fig. 1). Styles thin, with rounded bases. Specilla stout, shorter than styles, their tip are blunt. Sternite IX without vesicle, covered with thin hairs, and with three posterior areas lacking pigment (Fig. 3).

*Female abdomen:* Subgenital plate rectangular in shape. The hardly distinct sclerotized lobes are separated by a rounded median protuberance, projecting slightly upwards and backwards beyond the posterior margin of



Figs. 1-6 - Genitalia of *Leuctra cyrnea incudensis* subsp. n. Tip of the male abdomen: (1) dorsal, (2) lateral and (3) ventral view; (4) tip of the female abdomen in ventral view; (5) female subgenital plate in lateral view; (6) spermathecal sclerite in ventrolateral view.

Figs. 7-12 - Genitalia of *Leuctra cyrnea cyrnea*. Tip of the male abdomen. (7) dorsal, (8) lateral and (9) ventral view; (10); tip of the female abdomen in ventral view; (11) female subgenital plate in lateral view; (12) spermathecal sclerite in ventrolateral view.

the plate (Fig. 4). In lateral view this protuberance looks like a nose (Fig. 5). The spermathecal sclerite (Fig. 6) is shaped as in most of the species of the *L. hippopus* complex, in the *L. hippopus* subgroup.

*Affinities:* The male of *L. cyrnea incudensis* (Figs. 1-3) differs from that of *L. cyrnea cyrnea* (Figs. 7-9) by the presence of two erect processes on the tergite VII, by the lack of sclerotized extensions between the two processes of the VIII tergite, and by the wider three depigmented areas on the sternite IX.

The female subgenital plate of *L. cyrnea incudensis* (Figs. 4-5) is very similar to that of *L. cyrnea cyrnea* (Figs. 10-11), from which it slightly differs by the length and the shape of the median protuberance. The spermathecal sclerites of *L. cyrnea incudensis* are very alike to that of *L. cyrnea cyrnea* (Figs. 6 and 12).

*Ecological notes:* *L. cyrnea incudensis* is an orophilic, rheophilic species, living in shaded permanent mountain brooks and streams, between 750 and 1,800 m a.s.l. Its flight period is in the autumn (October).

***Leuctra cyrnea cyrnea*** Consiglio & Giudicelli, 1965 (Figs. 7-12)

*Material examined:* France, Corsica, Haute-Corse: north of Calacuccia, the Erco river, on the southern slope of the Monte Cinto, 2000 m, 2 ♂, 2 ♀, 30.05.92; 43 ♂, 24 ♀, 9.10.95; the Erco river, above the Ercu refuge, 1700 m, 14 ♂, 13 ♀, 9.10.95. Spring and brook tributary of the Erco river, near the Astradella refuge, 1600 m, 4 ♂, 5 ♀, 8.10.95. West of Calacuccia, Ciatarrinu brook, under the Verghio col, 1300 m, 10 ♂, 6 ♀, 8.10.95. Corse-du-Sud: north-east of Evisa, Luzzicheli brook, under the Verghio col, 1130 m, 10 ♀, 9.10.95. The Restonica stream, 1500 m, 1 ♂ *holotypus*, 6.IX.63; 1450-1500 m, 1 ♂, 1 ♀, 8.09.65.

*Ecological notes:* *L. cyrnea cyrnea* is a stenothermic, orophilic insect inhabiting the high central range of mountains, in the northern part of Corsica, from the Monte Cinto, to the Monte Rotondo (Restonica valley, Consiglio & Giudicelli 1965, 1967). It lives in various types of springs, rivulets and brooks, between 1100 and 2000 m a.s.l.; its flight period extends from September to May.

**References**

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